

Digitalization of Public Administration: Legal Implications of Implementing an Electronic-Based Government System on the Quality of Public Services

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Abstract. *The accelerating digitalization of public administration has transformed the traditional bureaucratic paradigm into an electronic-based government system that reshapes how citizens access, evaluate, and contest public services. This article investigates the legal implications of implementing an Electronic-Based Government System (Sistem Pemerintahan Berbasis Elektronik/SPBE) on the quality of public services, with particular attention to administrative accountability, due process, personal data protection, and cybersecurity governance. Using a normative juridical (yuridis normatif) research method combined with statutory, conceptual, and comparative-law approaches, the study examines Indonesia's principal legal instruments governing SPBE alongside recent empirical and doctrinal literature from Asia, Africa, Latin America, and Europe. The analysis finds that digital transformation measurably enhances efficiency, transparency, and citizen satisfaction, yet the absence of an integrated legal framework linking public-service law, government-administration law, and personal-data-protection law generates accountability gaps, unclear liability for system failure, and weak remedies for citizens harmed by automated or negligent digital processes. The novelty of this study lies in synthesizing administrative-law accountability doctrine with empirical service-quality indicators into a single normative framework, proposing the state's position as a constitutional service-and-data controller responsible for lawful, secure, and citizen-centered digital governance, and in demonstrating that this legal-accountability gap is a structural, cross-jurisdictional feature of electronic-government transitions rather than an isolated national deficiency.*

Keywords: *electronic-based government system; digitalization; public administration; legal accountability; public service quality*

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1. Introduction

Public administration across the world is undergoing a structural transformation driven by digital technology, moving away from paper-based, walk-in bureaucratic procedures toward integrated electronic government systems capable of delivering services online, in real time, and across administrative boundaries. This shift, commonly referred to as digital government or electronic government, is no longer treated merely as a technical upgrade of public administration; it has become a governance strategy embedded in national development agendas, anti-corruption programs, and public-service reform. Systematic reviews of the empirical literature confirm that e-government initiatives are associated with measurable

improvements in public value, including efficiency, transparency, participation, and trust¹. In China, integration-oriented e-government platforms have been shown not only to raise the overall quality of local public services but also to reduce inequality in service access between urban and rural populations². Comparable patterns are documented in Pakistan, where electronic-governance instruments have improved the quality of public services and the management of municipal property³, and in Nepal, where the deployment of e-government platforms in Kathmandu Metropolitan City has improved citizens' access to services, administrative efficiency, and perceived service quality simultaneously⁴.

Indonesia is one of the more instructive cases of this global trend because it combines an ambitious digitalization agenda with an unusually dense legal architecture. The government formalized its digital transformation strategy through Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System, commonly known by its Indonesian acronym SPBE, which mandates seven guiding principles, namely effectiveness, integration, continuity, efficiency, accountability, interoperability, and security, for all electronic public services delivered by central and regional government institutions⁵. This regulation operates alongside Law Number 25 of 2009 concerning Public Services, which establishes citizens' rights to receive prompt, transparent, and accountable services, and Law Number 30 of 2014 concerning Government Administration, which subjects every administrative decision, whether issued manually or electronically, to the general principles of good governance⁶. More recently, Law Number 27 of 2022 concerning Personal Data Protection has added a further layer of legal obligation, requiring public institutions that act as electronic data controllers to safeguard citizens' personal data throughout digital service delivery⁷. Village-level and district-level empirical studies confirm that where SPBE

¹Maclean, D., & Titah, R. (2021). A systematic literature review of empirical research on the impacts of e-government: A public value perspective. *Public Administration Review*. <https://doi.org/10.1111/puar.13413>

²Mao, Z., & Zhu, Y. (2025). Does e-government integration contribute to the quality and equality of local public services? Empirical evidence from China. *Humanities and Social Sciences Communications*, 12. <https://doi.org/10.1057/s41599-025-04539-y>

³The impact of electronic governance on the quality of public services and municipal property management. (2024). *Pakistan Journal of Criminology*, 16(1), 201–216. <https://doi.org/10.62271/pjc.16.1.201.216>

⁴Thapaliya, P., & Esichaikul, V. (2025). The impact of e-government on public services: Access, efficiency, and quality in Kathmandu metropolitan city. *JeDEM – eJournal of eDemocracy and Open Government*, 17(1). <https://doi.org/10.29379/jedem.v17i1.972>

⁵Republic of Indonesia, Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System, Art. 2.

⁶Republic of Indonesia, Law Number 25 of 2009 concerning Public Services; Law Number 30 of 2014 concerning Government Administration.

⁷Republic of Indonesia, Law Number 27 of 2022 concerning Personal Data Protection.

implementation is carried out consistently, measurable gains appear in service transparency and citizen satisfaction, as demonstrated in Sei Putih Barat Village⁸, in Sipatana District of Gorontalo City⁹, and in Bali's provincial land and licensing services¹⁰.

Beyond Indonesia, comparative evidence consistently associates e-government adoption with improved public-service quality. In Peru, digital public services correlate with a results-oriented model of governance that strengthens institutional performance¹¹. In Vietnam, administrative reform combined with e-government adoption has been found to raise the overall quality of public administrative services¹². Studies conducted in Medan City, Indonesia, similarly link e-government acceptability and work efficiency to enhanced public-service quality¹³, while broader Indonesian survey-based research finds a direct and significant influence of e-government adoption on citizens' perception of service quality¹⁴ and satisfaction¹⁵. Cross-national, technology-enabled service-delivery studies extend this pattern

⁸Zahra, H., Sirait, W., Ayunanda, E. U., Gultom, A., Elvandry, A. B., & Pasaribu, I. (2025). The effect of e-government information system implementation on public service quality and transparency: Case study at Sei Putih Barat Village. *Proceedings of the International Conference on Computer Science, Engineering, Social Science, and Multi-Disciplinary Studies*. <https://doi.org/10.64803/cessmuds.v1.96>

⁹Laisa, L., Abdussamad, J., & Tahopi, R. (2025). Quality of village administration services based on electronic government in Sipatana District, Gorontalo City. *International Journal Papier Public Review*, 6(1). <https://doi.org/10.47667/ijppr.v6i1.345>

¹⁰Astawa, I. (2023). E-government: Integrated, fast, certain and easy public service quality management in Bali. *Management and Applied Social Studies Review*. <https://doi.org/10.32795/massiv.v1i1.3892>

¹¹Corrales, M. P. V., Mamani, R. N. C., Ortega, C. E. J., Cuentas Galindo, I., Campos Ascuña, L. M., Morales Gonzales, A. V., Colana, A. S. S., Cabe, R. B. A., Aroquipa-Apaza, O., & Rodríguez-Saavedra, M. O. (2026). Digital public service quality and results-oriented governance in Peru. *Frontiers in Political Science*. <https://doi.org/10.3389/fpos.2026.1788065>

¹²Dan, L., & Thanh, Đ. Q. (2025). Public service quality in Vietnam: The role of e-government and administrative reform. *International Journal of Social Science and Human Research*, 8(6). <https://doi.org/10.47191/ijsshr/v8-i6-85>

¹³Pasaribu, V., Rajagukguk, J., & Sitorus, S. (2026). Enhancing public service quality in Medan City through e-government initiatives: The role of acceptability and work efficiency. *ARRUS Journal of Social Sciences and Humanities*. <https://doi.org/10.35877/soshum4940>

¹⁴Siregar, A. R., Panjaitan, S., Rohmendena, N., Bintang, Purba, S. H., Giawa, A., & Supraja, G. (2025). The influence of e-government on public service quality. *International Journal of Economic Research and Financial Accounting*, 3(2). <https://doi.org/10.55227/ijerfa.v3i2.295>

¹⁵Syahraini, A. P., Syarif, A., & Syarifuddin, A. (2025). Evaluation of public satisfaction with government services: Analysis of determinants of service quality in the digital administration era. *Journal of Public Administration Research*. <https://doi.org/10.67171/rv37qr93>

to administrative efficiency more broadly¹⁶, and systematic literature reviews grounded in public-value theory confirm that citizen-centered digital services generate demonstrable public value when properly designed¹⁷. Even sector-specific digitalization, such as online population-administration services, has been found to significantly improve the overall quality of public services delivered to citizens¹⁸.

Yet this expanding body of empirical literature is overwhelmingly oriented toward measuring outcomes, such as citizen satisfaction, efficiency gains, and service accessibility, while paying comparatively little systematic attention to the legal architecture that makes those outcomes lawful, accountable, and enforceable. Several studies have begun to expose this gap. Empirical work on modern public administration acknowledges that digital-transformation strategies for e-government-based services require an accompanying legal and institutional foundation to be sustainable¹⁹, while research on administrative-court disputes shows that the digital transformation of public services has already generated a new category of administrative litigation concerning digitally mediated decisions, data errors, and system malfunctions²⁰. Complementary legal-policy scholarship argues that enhancing the quality of public administrative services requires deliberate legal-policy interventions rather than technological deployment alone²¹. At the level of institutional accountability, systematic reviews of e-government and accountability literature find that digitalization can either strengthen or fragment accountability relationships depending on how legal and organizational safeguards are designed²², and cybersecurity-governance scholarship demonstrates that public-sector

¹⁶Singh, R. (2025). Technology-enabled public service delivery: Measuring the impact of e-governance on administrative efficiency. *International Journal of Integrated Research and Development*, 1(1). <https://doi.org/10.63665/ijird.v1.i1.3>

¹⁷Asmawanti-S, D., Afiah, N., Ritchi, H., & Suharman, H. (2025). Literature review of government digital services based on public value theory and citizen perspectives. *Cogent Business & Management*, 12. <https://doi.org/10.1080/23311975.2025.2518494>

¹⁸Nurfebryanti, N., Samsudin, S., & Marlina, L. (2026). The impact of online population administration services on improving the quality of public services. *Advances in Management & Financial Reporting*, 4(2). <https://doi.org/10.60079/amfr.v4i2.810>

¹⁹Sina, M. L. (2026). Digital transformation in public administration: Strategies for improving the quality of e-government-based public services. *JIHAD: Jurnal Ilmu Hukum dan Administrasi*, 8(1). <https://doi.org/10.58258/jihad.v8i1.10464>

²⁰deLlano, M., Al-Gibran, M., Azzahra, N., Justico, R. S., & Alamsyah, T. (2026). The impact of the digital transformation of public services on administrative court disputes at the administrative court. *Journal of Human Interaction and Social Studies*. <https://doi.org/10.65310/znmck97>

²¹Nga, T. T. B. (2025). Legal policy applications for enhancing the quality of public administrative services. *Emerging Science Journal*, 9(2). <https://doi.org/10.28991/esj-2025-09-02-020>

²²Antoni, S., Rahayu, S., Yudi, Y., & Herawaty, N. (2024). Electronic government and accountability: Systematic literature review, framework, and agenda for future research. *Journal of*

digital platforms face substantial and increasing information-security risks that translate directly into legal questions of administrative responsibility²³.

In the Indonesian context, this gap manifests concretely in the relationship between SPBE regulation and personal-data-protection law. Recent doctrinal analysis shows that although Indonesia now possesses an important legal foundation for both digital government and personal-data protection, the SPBE framework and the Personal Data Protection Law have not yet been substantively integrated, producing regulatory fragmentation that leaves institutional responsibility for data breaches, excessive data processing, and citizen notification unclear²⁴. A closely related study on cybersecurity governance within electronic-based government systems similarly finds that public data breaches raise unresolved questions of administrative responsibility, service continuity, and legal protection for affected citizens, and proposes a three-layer model of preventive, responsive, and restorative government responsibility to address this gap²⁵. As government institutions increasingly rely on algorithmic and automated tools within their electronic-service platforms, a further open legal question concerns whether, and how, administrative law's traditional guarantees of due process, reasoning, and reviewable decision-making apply when decisions are wholly or partly automated²⁶.

It is precisely at this intersection, between the empirically demonstrated benefits of e-government for service quality and the still-fragmented legal architecture governing accountability, data protection, and automated decision-making, that this article situates its contribution. The novelty of this study is threefold. First, unlike prior empirical studies that treat service quality solely as an outcome measured through citizen-satisfaction surveys, this article treats service quality as a normative-legal construct shaped by the enforceability of citizens' rights to lawful, transparent, secure, and reviewable digital public services. Second, whereas existing legal scholarship on SPBE tends to examine data protection, cybersecurity,

Applied Business, Taxation and Economics Research, 3(6), 728–738.
<https://doi.org/10.54408/jabter.v3i6.340>

²³Hossain, S. T., Yigitcanlar, T., Nguyen, K., & Xu, Y. (2025). Cybersecurity in local governments: A systematic review and framework of key challenges. *Urban Governance*, 5(1), 1–19.
<https://doi.org/10.1016/j.ugj.2024.12.010>

²⁴Suhardi, M. (2025). State responsibility in personal data protection within the electronic-based government system. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 4(3), 292–302.
<https://doi.org/10.69916/jkbt.v4i3.458>

²⁵Wahyudi, E., & Suhardi, M. (2025). Cybersecurity governance in electronic-based government systems: An analysis of the government's legal responsibility for public data breaches. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 4(3), 303–311.
<https://doi.org/10.69916/jkbt.v4i3.462>

²⁶Wahab, A., & Suhardi, M. (2026). Algorithmic transparency in digital public services: An administrative law perspective. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 5(1), 93–100.
<https://doi.org/10.69916/jkbt.v5i1.461>

or algorithmic transparency as separate doctrinal problems, this study integrates these three dimensions into a single accountability framework, namely preventive, responsive, and restorative responsibility, applicable across the full life cycle of digital public-service delivery. Third, this article extends the analysis beyond the Indonesian legal system by situating SPBE within a comparative empirical landscape drawn from China, Vietnam, Nepal, Peru, and Pakistan, thereby demonstrating that the legal accountability gap identified in Indonesian doctrine is not a local anomaly but a structural feature of electronic-government transitions more generally. On this basis, the article addresses the following legal problem: what are the legal implications of implementing an electronic-based government system for the quality of public services, and how should administrative-law accountability doctrine be reconstructed to close the gap between technological capability and legal enforceability in digital public administration?

The urgency of resolving this legal problem is heightened by the fact that digital public services increasingly determine citizens' access to fundamental entitlements, including identity documents, social assistance, licensing, and land administration, so that any legal ambiguity in the digital delivery chain has consequences that extend well beyond administrative inconvenience. A government platform that is efficient but legally unaccountable does not merely under-perform; it exposes citizens to risks that traditional, paper-based administration, for all its slowness, rarely produced at the same scale, such as mass data exposure, opaque automated rejections, or the inability to identify which institution is responsible when a shared digital system fails. Addressing these risks requires more than incremental technical fixes; it requires a legal framework capable of evolving at the same pace as the technology it is meant to govern, one in which accountability is designed into the system from the outset rather than retrofitted after a failure has already harmed citizens. This article contributes to that framework by treating the legal implications of SPBE not as a peripheral compliance issue but as the central determinant of whether digitalization ultimately raises or merely relocates the risks citizens already face in accessing public services.

2. Research Methods

This study employs a normative juridical research method, appropriate for legal research that examines law as a coherent system of norms rather than as a social fact to be measured empirically. Three approaches are combined. First, the statutory approach is used to examine Indonesia's primary legal instruments governing electronic-based government, namely Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System²⁷, Law Number 25 of 2009 concerning Public Services, Law Number 30

²⁷Republic of Indonesia, Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System, Art. 2.

of 2014 concerning Government Administration²⁸, Law Number 27 of 2022 concerning Personal Data Protection²⁹, and Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions³⁰. Second, the conceptual approach is used to construct the analytical framework linking administrative-law doctrines of accountability, due process, and good governance with the concept of public-service quality. Third, a comparative approach situates Indonesian SPBE regulation within secondary legal and empirical literature on electronic government from other jurisdictions, allowing the identification of common structural patterns in the relationship between digitalization and legal accountability.

Data for this study consist entirely of secondary legal materials, divided into primary legal materials, namely the statutes and regulations listed above, and secondary legal materials, namely peer-reviewed journal articles, conference proceedings, and doctrinal legal analyses published mainly between 2021 and 2026. These materials were collected through documentary study and analyzed using qualitative legal-content analysis, in which statutory provisions are systematically compared against doctrinal standards of administrative accountability and cross-referenced with empirical findings on service-quality outcomes. The analysis proceeds deductively: general legal principles governing administrative accountability and public service are applied to the specific normative structure of SPBE to evaluate whether, and to what extent, the current legal framework is capable of guaranteeing lawful, secure, and high-quality digital public services.

3. Result and Discussion

3.1 The Normative Architecture of SPBE and Its Principled Commitments

Presidential Regulation Number 95 of 2018 anchors SPBE in seven principles, namely effectiveness, integration, continuity, efficiency, accountability, interoperability, and security, that function simultaneously as governance objectives and as normative standards against which the legality of digital public services can be evaluated. Read together with Law Number 25 of 2009 concerning Public Services, which guarantees citizens' rights to prompt, transparent, and accountable services, and Law Number 30 of 2014 concerning Government Administration, which extends the general principles of good governance to every administrative act regardless of its medium, SPBE is best understood not as a discretionary technology policy but as a binding elaboration of citizens' existing statutory rights into the digital domain. This reading is consistent with comparative evidence: e-government integration in China has been found to improve both the quality and the equality of local public services, precisely because integrated digital platforms reduce the discretionary gaps that previously

²⁸Republic of Indonesia, Law Number 25 of 2009 concerning Public Services; Law Number 30 of 2014 concerning Government Administration.

²⁹Republic of Indonesia, Law Number 27 of 2022 concerning Personal Data Protection.

³⁰Republic of Indonesia, Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions.

allowed uneven service delivery³¹, while systematic public-value reviews confirm that well-designed digital-government initiatives generate measurable public value across efficiency, transparency, and trust dimensions³². Village- and district-level implementation studies in Indonesia illustrate the same principle-to-outcome relationship at a micro-institutional scale: in Sei Putih Barat Village, structured SPBE implementation produced measurable gains in both transparency and public-service quality³³, and in Sipatana District, Gorontalo City, electronic-government administration correspondingly improved the quality of village administrative services³⁴.

This normative reading also clarifies why service-quality outcomes vary so widely across jurisdictions that have adopted broadly similar digital-government technologies. Where SPBE principles are treated merely as technical specifications for procurement and system design, implementation tends to produce visible improvements in speed and convenience without a corresponding improvement in legal certainty; where the same principles are treated as binding elaborations of statutory rights, implementation tends to produce a more balanced improvement across both technical and legal dimensions of quality. Comparative evidence from Vietnam and Peru illustrates that administrative reform undertaken alongside e-government adoption, rather than e-government adoption alone, is what ultimately raises the overall quality of public administrative services^{35,36}, reinforcing the conclusion that SPBE's principles function best when read as legal standards rather than as purely technical benchmarks.

³¹Mao, Z., & Zhu, Y. (2025). Does e-government integration contribute to the quality and equality of local public services? Empirical evidence from China. *Humanities and Social Sciences Communications*, 12. <https://doi.org/10.1057/s41599-025-04539-y>

³²Maclean, D., & Titah, R. (2021). A systematic literature review of empirical research on the impacts of e-government: A public value perspective. *Public Administration Review*. <https://doi.org/10.1111/puar.13413>

³³Zahra, H., Sirait, W., Ayunanda, E. U., Gultom, A., Elvandry, A. B., & Pasaribu, I. (2025). The effect of e-government information system implementation on public service quality and transparency: Case study at Sei Putih Barat Village. *Proceedings of the International Conference on Computer Science, Engineering, Social Science, and Multi-Disciplinary Studies*. <https://doi.org/10.64803/cessmuds.v1.96>

³⁴Laisa, L., Abdussamad, J., & Tahopi, R. (2025). Quality of village administration services based on electronic government in Sipatana District, Gorontalo City. *International Journal Paper Public Review*, 6(1). <https://doi.org/10.47667/ijppr.v6i1.345>

³⁵Dan, L., & Thanh, Đ. Q. (2025). Public service quality in Vietnam: The role of e-government and administrative reform. *International Journal of Social Science and Human Research*, 8(6). <https://doi.org/10.47191/ijsshr/v8-i6-85>

³⁶Corrales, M. P. V., Mamani, R. N. C., Ortega, C. E. J., Cuentas Galindo, I., Campos Ascuña, L. M., Morales Gonzales, A. V., Colana, A. S. S., Cabe, R. B. A., Aroquipa-Apaza, O., & Rodríguez-Saavedra, M. O. (2026). Digital public service quality and results-oriented governance in Peru. *Frontiers in Political Science*. <https://doi.org/10.3389/fpos.2026.1788065>

3.2 Administrative Accountability and Due Process in Automated Public Services

The extension of good-governance principles into the digital domain becomes legally more complex once government institutions begin to rely on automated or algorithmically assisted decision-making within their electronic platforms. Administrative law has traditionally guaranteed citizens a right to reasoned, reviewable decisions and a corresponding avenue for legal remedy when those decisions are unlawful or arbitrary. Recent doctrinal analysis argues that the use of algorithmic systems in digital public services does not diminish this obligation; rather, it intensifies the need for meaningful explanation, because citizens affected by automated decisions require information on whether an algorithm was used, how it influenced the outcome, what data and criteria were considered, and what remedies remain available³⁷. This principle directly affects service quality: a digital service that is fast and efficient but opaque or unreviewable fails to satisfy the due-process component of public-service quality even if it satisfies its efficiency component. Empirical findings from the administrative courts corroborate this concern in practice; the digitalization of public services has already generated a distinct category of administrative disputes concerning erroneous, delayed, or unreviewable digital decisions, indicating that citizens are actively invoking judicial remedies when digital public administration fails to meet due-process standards³⁸. Broader legal-policy scholarship reaches a parallel conclusion, arguing that enhancing the quality of public administrative services in the digital era cannot rely on technological deployment alone but requires deliberate legal-policy design that anticipates and closes these accountability gaps³⁹. Systematic reviews of the accountability literature reinforce this point at a conceptual level, showing that digitalization can just as easily fragment as strengthen accountability relationships, depending on whether legal and institutional safeguards are built into the system from the outset rather than added retroactively⁴⁰.

3.3 Personal Data Protection and Cybersecurity as Preconditions of Service Quality

A second and closely related legal implication concerns the protection of personal data processed through electronic-government platforms. Doctrinal analysis of Indonesia's Personal Data Protection Law alongside SPBE regulation finds that, notwithstanding an already substantial legal foundation, the two frameworks have not been fully integrated, creating regulatory fragmentation around institutional responsibility, the scope of lawful data

³⁷Wahab, A., & Suhardi, M. (2026). Algorithmic transparency in digital public services: An administrative law perspective. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 5(1), 93–100. <https://doi.org/10.69916/jkbt.v5i1.461>

³⁸deLlano, M., Al-Gibran, M., Azzahra, N., Justico, R. S., & Alamsyah, T. (2026). The impact of the digital transformation of public services on administrative court disputes at the administrative court. *Journal of Human Interaction and Social Studies*. <https://doi.org/10.65310/zznmck97>

³⁹Nga, T. T. B. (2025). Legal policy applications for enhancing the quality of public administrative services. *Emerging Science Journal*, 9(2). <https://doi.org/10.28991/esj-2025-09-02-020>

⁴⁰Antoni, S., Rahayu, S., Yudi, Y., & Herawary, N. (2024). Electronic government and accountability: Systematic literature review, framework, and agenda for future research. *Journal of Applied Business, Taxation and Economics Research*, 3(6), 728–738. <https://doi.org/10.54408/jabter.v3i6.340>

processing, citizen-notification obligations, and the availability of remedies following a data breach⁴¹. This fragmentation has direct implications for service quality, because citizens' willingness to use digital public services depends significantly on trust that their personal data will be lawfully processed and adequately protected. Complementary research on cybersecurity governance within electronic-based government systems demonstrates that public data breaches are not merely technical failures but administrative-law events, triggering three layers of government responsibility: preventive responsibility, consisting of risk-based security standards, institutional coordination, and audits; responsive responsibility, consisting of timely detection, containment, and transparent communication; and restorative responsibility, consisting of service recovery, breach notification, and remedies for affected citizens⁴². This tripartite model offers a useful lens for evaluating SPBE implementation more broadly, since systematic reviews of local-government cybersecurity governance confirm that public-sector digital platforms worldwide face substantial and growing information-security risks that, left unaddressed, directly undermine the reliability dimension of service quality⁴³. Comparative empirical findings from e-government service-quality studies elsewhere lend further support to this connection: cross-national evidence associates citizen trust in electronic-government services with the mediating effect of citizen satisfaction, itself shaped by the perceived security and reliability of the service platform, while research from Kathmandu Metropolitan City finds that access, efficiency, and quality dimensions of e-government services are interdependent, such that weaknesses in one dimension, such as data security, tend to depress citizens' overall evaluation of service quality⁴⁴.

These two legal dimensions, administrative accountability and personal-data protection, are mutually reinforcing rather than separate concerns. A citizen who cannot obtain a reasoned explanation for an automated decision is, in practical terms, also unable to verify whether that decision was based on accurate, lawfully obtained personal data, so that weaknesses in due-process guarantees and weaknesses in data-protection guarantees tend to compound one another in digital public administration. Recognizing this interaction is central to the integrated accountability model proposed in Section 3.5.

⁴¹Suhardi, M. (2025). State responsibility in personal data protection within the electronic-based government system. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 4(3), 292–302. <https://doi.org/10.69916/jkbt.v4i3.458>

⁴²Wahyudi, E., & Suhardi, M. (2025). Cybersecurity governance in electronic-based government systems: An analysis of the government's legal responsibility for public data breaches. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 4(3), 303–311. <https://doi.org/10.69916/jkbt.v4i3.462>

⁴³Hossain, S. T., Yigitcanlar, T., Nguyen, K., & Xu, Y. (2025). Cybersecurity in local governments: A systematic review and framework of key challenges. *Urban Governance*, 5(1), 1–19. <https://doi.org/10.1016/j.ugj.2024.12.010>

⁴⁴Thapaliya, P., & Esichaikul, V. (2025). The impact of e-government on public services: Access, efficiency, and quality in Kathmandu metropolitan city. *JeDEM – eJournal of eDemocracy and Open Government*, 17(1). <https://doi.org/10.29379/jedem.v17i1.972>

3.4 Legal Principles and Public Service Quality: A Correlational Overview

Table 1 summarizes how each of SPBE's normative principles corresponds to a specific dimension of public-service quality identified in the comparative empirical literature discussed above.

Table 1. Correlation between SPBE Legal Principles and Dimensions of Public Service Quality

No	SPBE Principle	Primary Legal Basis	Public Service Quality Dimension	Supporting Evidence
1	Accountability	Perpres 95/2018 Art. 2; UU 30/2014	Reviewability and legal certainty	Wahab & Suhardi (2026); deLlano et al. (2026)
2	Security	Perpres 95/2018 Art. 2; UU 27/2022; PP 71/2019	Reliability and citizen trust	Wahyudi & Suhardi (2025); Suhardi (2025); Hossain et al. (2025)
3	Interoperability	Perpres 95/2018 Art. 2	Accessibility and consistency	Mao & Zhu (2025); Zahra et al. (2025)
4	Effectiveness / Efficiency	Perpres 95/2018 Art. 2; UU 25/2009	Timeliness and responsiveness	Pasaribu et al. (2026); Singh (2025); Setyawan (2024)
5	Continuity	Perpres 95/2018 Art. 2	Service availability	Laisa et al. (2025); Astawa (2023)
6	Transparency (derived)	UU 25/2009 Art. 4	Openness and accountability	Siregar et al. (2025); Corrales et al. (2026)
7	Integration	Perpres 95/2018 Art. 2	Equality of access	Mao & Zhu (2025); Nurfebryanti et al. (2026)

The mapping in Table 1 shows that principles oriented toward technical performance, namely effectiveness, efficiency, continuity, and interoperability, are already substantially supported by measurable empirical outcomes: e-government adoption in Medan City improves acceptability and efficiency⁴⁵, technology-enabled service delivery elsewhere raises

⁴⁵Pasaribu, V., Rajagukguk, J., & Sitorus, S. (2026). Enhancing public service quality in Medan City through e-government initiatives: The role of acceptability and work efficiency. *ARRUS Journal of Social Sciences and Humanities*. <https://doi.org/10.35877/soshum4940>

administrative efficiency⁴⁶, and integrated platforms in China simultaneously improve service quality and equality of access⁴⁷. By contrast, the principles most directly tied to legal accountability, namely accountability and security, remain comparatively underdeveloped in implementation, precisely because they depend on legal-institutional integration between SPBE regulation, administrative law, and data-protection law, rather than on technological capacity alone. This asymmetry explains why citizen-satisfaction studies frequently report high scores for convenience and speed but persistent concern about transparency, complaint handling, and data security⁴⁸; the technical principles of SPBE are being realized faster than its legal-accountability principles, and this gap constitutes the central legal implication identified by this study.

3.5 Regulatory Fragmentation and the Case for an Integrated Accountability Model

Taken together, the findings above indicate that the primary legal implication of implementing an electronic-based government system is not the creation of new categories of law, but the intensification of existing accountability obligations under conditions that current sectoral regulation does not yet fully anticipate. Public-service law defines the right to quality service; government-administration law defines the standard of lawful administrative action; personal-data-protection law defines the standard of lawful data processing; and SPBE regulation defines the technical and institutional principles binding electronic implementation. Each framework is doctrinally sound on its own terms, yet none of them, taken individually, resolves questions that only arise at their intersection, such as which institution bears legal responsibility when a data breach originates in a shared government cloud infrastructure, or how citizens can exercise a right to explanation when a service decision is generated by an automated system operated by a different agency than the one legally responsible for the underlying substantive decision. Public-value-oriented systematic reviews of government digital services similarly argue that sustainable digital-service quality requires institutional design connecting technical infrastructure with legal accountability mechanisms, rather than treating them as parallel tracks⁴⁹. This article's proposed response, consistent with the three-layer responsibility model identified in cybersecurity-governance scholarship⁵⁰, is to treat the

⁴⁶Singh, R. (2025). Technology-enabled public service delivery: Measuring the impact of e-governance on administrative efficiency. *International Journal of Integrated Research and Development*, 1(1). <https://doi.org/10.63665/ijird.v1.i1.3>

⁴⁷Mao, Z., & Zhu, Y. (2025). Does e-government integration contribute to the quality and equality of local public services? Empirical evidence from China. *Humanities and Social Sciences Communications*, 12. <https://doi.org/10.1057/s41599-025-04539-y>

⁴⁸Syahraini, A. P., Syarif, A., & Syarifuddin, A. (2025). Evaluation of public satisfaction with government services: Analysis of determinants of service quality in the digital administration era. *Journal of Public Administration Research*. <https://doi.org/10.67171/rv37qr93>

⁴⁹Asmawanti-S, D., Afiah, N., Ritchi, H., & Suharman, H. (2025). Literature review of government digital services based on public value theory and citizen perspectives. *Cogent Business & Management*, 12. <https://doi.org/10.1080/23311975.2025.2518494>

⁵⁰Wahyudi, E., & Suhardi, M. (2025). Cybersecurity governance in electronic-based government systems: An analysis of the government's legal responsibility for public data breaches.

state as a constitutional service-and-data controller: an entity whose legal responsibility for public-service quality extends across the entire life cycle of digital service delivery, from system design as preventive responsibility, through service operation as responsive responsibility, to remedy and restitution when service or data failures occur as restorative responsibility. Adopting this model would not require Indonesia, or comparable jurisdictions, to draft an entirely new body of law; it would instead require harmonizing existing SPBE, public-service, government-administration, and data-protection regulations around a single, coherent accountability doctrine capable of guaranteeing that the efficiency gains documented throughout the comparative empirical literature are matched by an equivalent guarantee of legality, security, and enforceable citizen remedy.

4. Conclusion

This article has examined the legal implications of implementing an Electronic-Based Government System on the quality of public services, using a normative juridical method that combines statutory, conceptual, and comparative approaches. Three conclusions follow from the analysis. First, Indonesia's SPBE framework, read together with public-service law and government-administration law, already establishes a normatively sound foundation for treating digital public services as an elaboration of citizens' existing statutory rights rather than as a discretionary technological convenience; this foundation is empirically corroborated by consistent findings across multiple jurisdictions that e-government adoption improves efficiency, transparency, accessibility, and citizen satisfaction. Second, however, the legal-accountability dimensions of digital government, namely administrative due process for automated decisions, personal data protection, and cybersecurity governance, remain comparatively underdeveloped relative to the technical-performance dimensions of SPBE, because their realization depends on the integration of several distinct legal regimes that currently operate in relative isolation from one another. This regulatory fragmentation generates concrete risks, including unclear institutional responsibility for data breaches, weak citizen remedies for erroneous automated decisions, and a widening gap between the pace of digital transformation and the pace of legal harmonization. Third, closing this gap does not require abandoning existing law but reconstructing it around an integrated accountability doctrine in which the state functions as a constitutional service-and-data controller, bearing preventive, responsive, and restorative responsibility across the full life cycle of digital public-service delivery.

For policymakers, these findings imply prioritizing the harmonization of SPBE regulation with personal-data-protection law and administrative-law due-process guarantees, rather than continuing to treat these as separate regulatory projects. For future research, the normative framework developed in this article invites empirical testing, particularly comparative studies measuring whether jurisdictions that have achieved greater legal integration between digital-government, data-protection, and administrative-law frameworks demonstrate correspondingly higher and more durable public-service-quality outcomes than jurisdictions where digitalization has outpaced legal harmonization

**References**

- Antoni, S., Rahayu, S., Yudi, Y., & Herawaty, N. (2024). Electronic government and accountability: Systematic literature review, framework, and agenda for future research. *Journal of Applied Business, Taxation and Economics Research*, 3(6), 728–738. <https://doi.org/10.54408/jabter.v3i6.340>
- Asmawanti-S, D., Afiah, N., Ritchi, H., & Suharman, H. (2025). Literature review of government digital services based on public value theory and citizen perspectives. *Cogent Business & Management*, 12. <https://doi.org/10.1080/23311975.2025.2518494>
- Astawa, I. (2023). E-government: Integrated, fast, certain and easy public service quality management in Bali. *Management and Applied Social Studies Review*. <https://doi.org/10.32795/massiv.v1i1.3892>
- Aziz, K., Ali, F., Shahid, A., Baker, A., & Bano, A. (2026). E-government service quality and public trust: The mediating role of citizen satisfaction. *Social Science Review Archives*. <https://doi.org/10.70670/sra.v4i1.2414>
- Corrales, M. P. V., Mamani, R. N. C., Ortega, C. E. J., Cuentas Galindo, I., Campos Ascuña, L. M., Morales Gonzales, A. V., Colana, A. S. S., Cabe, R. B. A., Aroquipa-Apaza, O., & Rodríguez-Saavedra, M. O. (2026). Digital public service quality and results-oriented governance in Peru. *Frontiers in Political Science*. <https://doi.org/10.3389/fpos.2026.1788065>
- Dan, L., & Thanh, Đ. Q. (2025). Public service quality in Vietnam: The role of e-government and administrative reform. *International Journal of Social Science and Human Research*, 8(6). <https://doi.org/10.47191/ijssshr/v8-i6-85>
- deLlano, M., Al-Gibran, M., Azzahra, N., Justico, R. S., & Alamsyah, T. (2026). The impact of the digital transformation of public services on administrative court disputes at the administrative court. *Journal of Human Interaction and Social Studies*. <https://doi.org/10.65310/znmck97>
- Hossain, S. T., Yigitcanlar, T., Nguyen, K., & Xu, Y. (2025). Cybersecurity in local governments: A systematic review and framework of key challenges. *Urban Governance*, 5(1), 1–19. <https://doi.org/10.1016/j.ugj.2024.12.010>
- The impact of electronic governance on the quality of public services and municipal property management. (2024). *Pakistan Journal of Criminology*, 16(1), 201–216. <https://doi.org/10.62271/pjc.16.1.201.216>
- Laisa, L., Abdussamad, J., & Tahopi, R. (2025). Quality of village administration services based on electronic government in Sipatana District, Gorontalo City. *International Journal Papier Public Review*, 6(1). <https://doi.org/10.47667/ijppr.v6i1.345>
- Maclean, D., & Titah, R. (2021). A systematic literature review of empirical research on the impacts of e-government: A public value perspective. *Public Administration Review*. <https://doi.org/10.1111/puar.13413>
- Mao, Z., & Zhu, Y. (2025). Does e-government integration contribute to the quality and equality of local public services? Empirical evidence from China. *Humanities and Social Sciences Communications*, 12. <https://doi.org/10.1057/s41599-025-04539-y>

- Nga, T. T. B. (2025). Legal policy applications for enhancing the quality of public administrative services. *Emerging Science Journal*, 9(2). <https://doi.org/10.28991/esj-2025-09-02-020>
- Nurfebryanti, N., Samsudin, S., & Marlina, L. (2026). The impact of online population administration services on improving the quality of public services. *Advances in Management & Financial Reporting*, 4(2). <https://doi.org/10.60079/amfr.v4i2.810>
- Pasaribu, V., Rajagukguk, J., & Sitorus, S. (2026). Enhancing public service quality in Medan City through e-government initiatives: The role of acceptability and work efficiency. *ARRUS Journal of Social Sciences and Humanities*. <https://doi.org/10.35877/soshum4940>
- Setyawan, A. C. (2024). Enhancing public service delivery through digital transformation: A study on the role of e-government in modern public administration. *Global International Journal of Innovative Research*, 2(10). <https://doi.org/10.59613/global.v2i10.340>
- Singh, R. (2025). Technology-enabled public service delivery: Measuring the impact of e-governance on administrative efficiency. *International Journal of Integrated Research and Development*, 1(1). <https://doi.org/10.63665/ijird.v1.i1.3>
- Sina, M. L. (2026). Digital transformation in public administration: Strategies for improving the quality of e-government-based public services. *JIHAD: Jurnal Ilmu Hukum dan Administrasi*, 8(1). <https://doi.org/10.58258/jihad.v8i1.10464>
- Siregar, A. R., Panjaitan, S., Rohmendena, N., Bintang, Purba, S. H., Giawa, A., & Supraja, G. (2025). The influence of e-government on public service quality. *International Journal of Economic Research and Financial Accounting*, 3(2). <https://doi.org/10.55227/ijerfa.v3i2.295>
- Suhardi, M. (2025). State responsibility in personal data protection within the electronic-based government system. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 4(3), 292–302. <https://doi.org/10.69916/jkbt.v4i3.458>
- Syahraeni, A. P., Syarif, A., & Syarifuddin, A. (2025). Evaluation of public satisfaction with government services: Analysis of determinants of service quality in the digital administration era. *Journal of Public Administration Research*. <https://doi.org/10.67171/rv37qr93>
- Thapaliya, P., & Esichaikul, V. (2025). The impact of e-government on public services: Access, efficiency, and quality in Kathmandu metropolitan city. *JeDEM – eJournal of eDemocracy and Open Government*, 17(1). <https://doi.org/10.29379/jedem.v17i1.972>
- Wahab, A., & Suhardi, M. (2026). Algorithmic transparency in digital public services: An administrative law perspective. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 5(1), 93–100. <https://doi.org/10.69916/jkbt.v5i1.461>
- Wahyudi, E., & Suhardi, M. (2025). Cybersecurity governance in electronic-based government systems: An analysis of the government's legal responsibility for public data breaches. *Jurnal Kecerdasan Buatan dan Teknologi Informasi*, 4(3), 303–311. <https://doi.org/10.69916/jkbt.v4i3.462>

Legal Materials

Republic of Indonesia. (2009). Law Number 25 of 2009 concerning Public Services.

- Republic of Indonesia. (2014). Law Number 30 of 2014 concerning Government Administration.
- Republic of Indonesia. (2018). Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System.
- Republic of Indonesia. (2019). Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions.
- Republic of Indonesia. (2022). Law Number 27 of 2022 concerning Personal Data Protection.